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| Val | Val | His | Cys | Val 370 | Asn | Glu | Ile | Glu | Gln 375 | Arg | Gly | Leu | Thr | Glu 380 | Thr | |
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| Gly | Leu | Tyr | Arg 385 | Ile | Ser | Gly | Cys | Asp 390 | Arg | Thr | Val | Lys | Glu 395 | Leu | Lys | |
| gag | aaa | ttc | ctc | aga | gtg | aaa | act | gta | CCC | ctc | ctc | agc | aaa | gtg | gat | 1309 |
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| Asp | Ile 415 | His | Ala | Ile | Cys | Ser 420 | Leu | Leu | Lys | Asp | Phe 425 | Leu | Arg | Asn | Leu | |
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| gtt | ggt | gaa | ctg | CCC | cag | gcc | aac | agg | gac | aca | tta | gct | ttc | ctc | atg | 1501 |
| Val | Gly | Glu | Leu 465 | Pro | Gln | Ala | | Arg 470 | _ | Thr | Leu | Ala | Phe 475 | Leu | Met | |
| att | cac | ttg | cag | aga | gtg | gct | cag | agt | cca | cat | act | aaa | atg | gat | gtt | 1549 |
| Ile | His | Leu 480 | Gln | Arg | Val | Ala | Gln 485 | Ser | Pro | His | Thr | Lys 490 | Met | Asp | Val | |
| gcc | aat | ctg | gct | aaa | gtc | ttt | ggc | cct | aca | ata | gtg | gcc | cat | gct | gtg | 1597 |
| Ala | Asn 495 | Leu | Ala | Lys | Val | Phe 500 | Gly | Pro | Thr | Ile | Val 505 | Ala | His | Ala | Val | |
| CCC | aat | cca | gac | сса | gtg | aca | atg | tca | cag | gac | atc | aag | cgt | caa | ccc | 1645 |
| Pro 510 | Asn | Pro | Asp | Pro | Val 515 | Thr | Met | Ser | Gln | Asp 520 | Ile | Lys | Arg | Gln | Pro 525 | |

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| Ser 590 | Ser | Ser | Ser | Leu | Ser 595 | Gln | Arg | Val | Arg | Ser 600 | Thr | Leu | Thr | Lys | Asn 605 | |
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| Thr | Pro | Arg | Phe | Gly 610 | Ser | Lys | Ser | Lys | Ser 615 | Ala | Thr | Asn | Leu | Gly 620 | Arg | |
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Cys Val Asn Glu Ile Glu Gln Arg Gly Leu Thr Glu Thr Gly Leu Tyr

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| Leu 465 | Pro | Gln | Ala | Asn | Arg 470 | Asp | Thr | Leu | Ala | Phe 475 | Leu | Met | Ile | His | Leu 480 |
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| Pro | Val | Thr | Thr 580 | Pro | Glu | His | Gln | Leu 585 | Leu | Lys | Thr | Pro | Ser 590 | Ser | Ser |
| Ser | Leu | Ser 595 | Gln | Arg | Val | Arg | Ser 600 | Thr | Leu | Thr | Lys | Asn 605 | Thr | Pro | Arg |
| Phe | Gly 610 | Ser | Lys | Ser | Lys | Ser 615 | Ala | Thr | Asn | Leu | Gly 620 | Arg | Gln | Gly | Asn |
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| Lys Ala Glu Thr Gly Arg Ser Ala Leu Asp Val Lys Leu Lys His Ala 65 .70 .75 | |
| cgt aat caa gtg gac gtg gag atc aag cgg agg cag cgc gct gag gca 410 | 0 |
| Arg Asn Gln Val Asp Val Glu Ile Lys Arg Arg Gln Arg Ala Glu Ala 80 85 90 | |
| gag tgt gca aag ctg gaa caa cag att cag ctg att cga gac ata ctc 450 | 8 |
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5

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| att Ile 205 aca Thr att Ile tta Leu | ggc Gly gtg Val gag Glu caa Gln | tct Ser act Thr aca Thr cct Pro 255 | aca Thr gtt Val ttg Leu 240 gtg Val | gta Val ccc Pro 225 ccg Pro aac Asn | gac Asp 210 agt Ser tcc Ser agt Ser | 195 cag Gln gat Asp tgg Trp gac Asp | gca Ala ggg Gly acc Thr tcc Ser | aat Asn gga Gly agg Arg 245 gct Ala | gaa Glu CCC Pro 230 agt Ser ctg | tca Ser 215 att Ile cgc Arg aac Asn | 200 ata Ile gaa Glu ggg Gly agc Ser | gtt Val gct Ala aag Lys agg Arg 265 | gca Ala gtg Val tca Ser 250 cca Pro | aaa Lys tct Ser 235 gga Gly ctg Leu | act Thr 220 act Thr cct Pro gag Glu | 842 |

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| tgt | gtt | ccg | tgt | gga | aag | cgg | atc | aag | ttt | ggc | aag | ctg | tct | ctg | aag | 1082 |
| Cys | Val | Pro | Cys | Gly 305 | Lys | Arg | Ile | Lys | Phe 310 | Gly | Lys | Leu | Ser | Leu 315 | Lys | |
| tgt | cga | gac | tgt | cgt | ttg | gtc | tcc | cat | сса | gaa | tgt | cgg | gac | cga | tgt | 1130 |
| Cys | Arg | Asp | Cys 320 | Arg | Leu | Val | Ser | His 325 | Pro | Glu | Cys | Arg | Asp 330 | Arg | Cys | |
| CCC | ctt | CCC | tgc | atc | ccc | ccc | ctg | gtg | ggg | aca | ccg | gtt | aag | att | gga | 1178 |
| Pro | Leu | Pro 335 | Cys | Ile | Pro | Pro | Leu 340 | Val | Gly | Thr | Pro | Val 345 | Lys | Ile | Gly | |
| gag | ggc | atg | ctg | gcc | gac | ttc | gtg | tcg | cag | gct | tct | CCC | atg | atc | cct | 1226 |
| Glu | Gly 350 | Met | Leu | Ala | Asp | Phe 355 | Val | Ser | Gln | Ala | Ser 360 | Pro | Met | Ile | Pro | |
| gcc | att | gtc | gtc | agc | tgt | gtc | aat | gag | atc | gag | cag | cga | ggc | ctg | act | 1274 |
| Ala 365 | Ile | Val | Val | Ser | Cys 370 | Val | Asn | Glu | Ile | Glu 375 | Gln | Arg | Gly | Leu | Thr 380 | |
| gag | gca | ggc | ttg | tac | agg | atc | tca | ggc | tgt | gac | cgc | aca | gtg | aaa | gaa | 1322 |
| Glu | Ala | Gly | Leu | Tyr 385 | Arg | Ile | Ser | Gly | Cys 390 | Asp | Arg | Thr | Val | Lys 395 | Glu | |
| ctg | aaa | gaa | aaa | ttc | ctt | aag | gtg | aaa | act | gtg | CCC | ctc | ctc | agc | aaa | 1370 |
| Leu | Lys | Glu | Lys 400 | Phe | Leu | Lys | Val | Lys 405 | Thr | Val | Pro | Leu | Leu 410 | Ser | Lys | |
| gtg | gac | gat | atc | cac | gtc | atc | tgc | agc | ctc | ctg | aag | gac | ttc | ctg | cgc | 1418 |
| Val | Asp | Asp 415 | Ile | His | Val | Ile | Cys 420 | Ser | Leu | Leu | Lys | Asp 425 | Phe | Leu | Arg | |
| aac | ctc | aaa | gag | ccc | ctc | ctg | acc | ttc | tgg | ctg | agc | aaa | gcc | ttc | atg | 1466 |
| Asn | Leu 430 | Lys | Glu | Pro | Leu | Leu 435 | Thr | Phe | Trp | Leu | Ser 440 | Lys | Ala | Phe | Met | |
| gag | gca | gca | gag | ata | aca | gat | gaa | gac | aac | agc | aca | gcc | gcc | atg | tac | 1514 |
| Glu 445 | Ala | Ala | Glu | Ile | Thr 450 | Asp | Glu | Asp | Àsn | Ser 455 | Thr | Ala | Ala | Met | Tyr 460 | |

| cag | gct | gtc | agt | gag | ctg | CCC | cag | gcc | aac | agg | gac | acg | cta | gcc | ttc | 1562 |
|------------|-------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| Gln | Ala | Val | Ser | Glu 465 | Leu | Pro | Gln | Ala | Asn 470 | Arg | Asp | Thr | Leu | Ala 475 | Phe | |
| ctt | atg | atc | cac | cta | cag | aga | gtg | tct | cag | agt | cca | gac | act | aag | atg | 1610 |
| Leu | Met | Ile | His 480 | Leu | Gln | Arg | Val | Ser 485 | Gln | Ser | Pro | Asp | Thr 490 | Lys | Met | |
| gat | att | gcc | aat | cta | gct | aaa | gtc | ttt | ggc | cct | aca | ata | gtt | gcc | cat | 1658 |
| Asp | Ile | Ala 495 | Asn | Leu | Ala | Lys | Val 500 | Phe | Gly | Pro | Thr | Ile 505 | Val | Ala | His | |
| act | gtg | CCC | aat | сса | gat | сса | gtg | aca | atg | ttc | cag | gac | atc | aaa | cgt | 1706 |
| Thr | Val 510 | Pro | Asn | Pro | Asp | Pro 515 | Val | Thr | Met | Phe | Gln 520 | Asp | Ile | Lys | Arg | |
| cag | ctc | aag | gtg | gtg | gag | cgc | cta | ctc | tct | ctc | CCC | ttg | gag | tac | tgg | 1754 |
| Gln 525 | Leu | Lys | Val | Val | Glu 530 | Arg | Leu | Leu | Ser | Leu 535 | Pro | Leu | Glu | Tyr | Trp 540 | |
| aat | cag | ttc | atg | atg | gtg | gac | caa | gag | aac | ata | gac | agc | cag | cga | ggc | 1802 |
| Asn | Gln | Phe | Met | Met 545 | Val | Asp | Gln | Glu | Asn 550 | Ile | Asp | Ser | Gln | Arg 555 | Gly | |
| aat | gga | aac | tca _. | aca | сса | cgc | aca | сса | gac | gtt | aaa | gtg | agc | tta | ctg | 1850 |
| Asn | Gly | Asn | Ser 560 | Thr | Pro | Arg | Thr | Pro 565 | Asp | Val | Lys | Val | Ser 570 | Leu | Leu | |
| aaa | cct | gtg | acc | act | cct | gaa | ttc | cag | ctt | gtc | aag | act | cct | tta | tca | 1898 |
| Gly | Pro | Val 575 | Thr | Thr | Pro | Glu | Phe 580 | Gln | Leu | Val | Lys | Thr 585 | Pro | Leu | Ser | |
| agt | tcc | ctg | tca | cag | agg | ttg | tac | aac | ctc | tcc | aag | agc | aca | CCC | aga | 1946 |
| Ser | Ser 590 | Leu | Ser | Gln | Arg | Leu 595 | Tyr | Asn | Leu | Ser | Lys 600 | Ser | Thr | Pro | Arg | |
| ttt | 9 99 | aac | aag | agc | aag | tct | gcc | acc | aac | tta | ggt | caa | cag | ggc | aaa | 1994 |
| Phe 605 | Gly | Asn | Lys | Ser | Lys 610 | Ser | Ala | Thr | Asn | Leu 615 | Gly | Gln | Gln | Gly | Lys 620 | |
| ttt | ttc | cct | gct | ccg | tac | ctc | aag | taa | agct | gtgt | ct g | gcctg | gtgtt | t | | 2041 |
| Phe | Phe | Pro | Ala | Pro 625 | Tyr | Leu | Lys | | • | | | | | | | |

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295

300

Gly Lys Arg Ile Lys Phe Gly Lys Leu Ser Leu Lys Cys Arg Asp Cys 305 310 315 Arg Leu Val Ser His Pro Glu Cys Arg Asp Arg Cys Pro Leu Pro Cys 325 330 Ile Pro Pro Leu Val Gly Thr Pro Val Lys Ile Gly Glu Gly Met Leu 345 Ala Asp Phe Val Ser Gln Ala Ser Pro Met Ile Pro Ala Ile Val Val 355 360 Ser Cys Val Asn Glu Ile Glu Gln Arg Gly Leu Thr Glu Ala Gly Leu 375 Tyr Arg Ile Ser Gly Cys Asp Arg Thr Val Lys Glu Leu Lys Glu Lys 395 385 Phe Leu Lys Val Lys Thr Val Pro Leu Leu Ser Lys Val Asp Asp Ile 410 His Val Ile Cys Ser Leu Leu Lys Asp Phe Leu Arg Asn Leu Lys Glu 425 Pro Leu Leu Thr Phe Trp Leu Ser Lys Ala Phe Met Glu Ala Ala Glu 440 445 435 Ile Thr Asp Glu Asp Asn Ser Thr Ala Ala Met Tyr Gln Ala Val Ser 455 Glu Leu Pro Gln Ala Asn Arg Asp Thr Leu Ala Phe Leu Met Ile His 470 475 465 Leu Gln Arg Val Ser Gln Ser Pro Asp Thr Lys Met Asp Ile Ala Asn 485 490 Leu Ala Lys Val Phe Gly Pro Thr Ile Val Ala His Thr Val Pro Asn 500 505 Pro Asp Pro Val Thr Met Phe Gln Asp Ile Lys Arg Gln Leu Lys Val Val Glu Arg Leu Leu Ser Leu Pro Leu Glu Tyr Trp Asn Gln Phe Met 530 535 Met Val Asp Gln Glu Asn Ile Asp Ser Gln Arg Gly Asn Gly Asn Ser 550 555 Thr Pro Arg Thr Pro Asp Val Lys Val Ser Leu Leu Gly Pro Val Thr 570 Thr Pro Glu Phe Gln Leu Val Lys Thr Pro Leu Ser Ser Ser Leu Ser 580 Gln Arg Leu Tyr Asn Leu Ser Lys Ser Thr Pro Arg Phe Gly Asn Lys

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Met Glu Glu Asn Lys Ala Leu Lys Leu Asp Leu Asn Val Tyr Glu Thr 105

100

| cgt | gaa | aag | cag | ctg | aaa | gat | gcg | atg | aag | aac | ggt | ata | ttc | aat | agt | 384 |
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| Arg | Glu | Lys 115 | Gln | Leu | Lys | Asp | Ala 120 | Met | Lys | Asn | Gly | Ile 125 | Phe | Asn | Ser | |
| ctc | acc | aag | gaa | gac | cgc | gat | cag | ttc | aag | ttt | ctt | cac | gag | сса | ctg | 432 |
| Leu | Thr 130 | Lys | Glu | Asp | Arg | Asp 135 | Gln | Phe | Lys | Phe | Leu 140 | His | Glu | Pro | Leu | |
| gtc | cgg | aca | tac | tcg | aaa | cgg | gtg | cag | cag | agg | cat | cca | cat | ttg | atg | 480 |
| Val 145 | Arg | Thr | Tyr | Ser | Lys 150 | Arg | Val | Gln | Gln | Arg 155 | His | Pro | His | Leu | Met 160 | |
| gag | gac | aca | cag | gac | gat | gag | gac | gat | agt | gag | gtg | gat | tac | gat | gaa | 528 |
| Glu | Asp | Thr | Gln | Asp 165 | Asp | Glu | Asp | Asp | Ser 170 | Glu | Val | Asp | Tyr | Asp 175 | Glu | |
| act | gga | gac | agt | ttc | gag | gaa | gtt | att | cat | ttg | cgc | aat | gga | aga | gag | 576 |
| Thr | Gly | Asp | Ser 180 | Phe | Glu | Glu | Val | Ile 185 | His | Leu | Arg | Asn | Gly 190 | Arg | Glu | |
| gtc | aga | aga | agc | tca | gct | gct | gga | aac | gca | gtt | ggt | ggc | aag | cgg | aga | 624 |
| Val | Arg | Arg 195 | Ser | Ser | Ala | Ala | Gly 200 | Asn | Ala | Val | Gly | Gly 205 | Lys | Arg | Arg | |
| agc | gcg | tca | gca | cat | gcg | att | act | gct | gct | gcc | aat | tcg | aag | agg | agc | 672 |
| Ser | Ala 210 | Ser | Ala | His | Ala | Ile 215 | Thr | Ala | Åla | Ala | Asn 220 | Ser | Lys | Arg | Ser | |
| aga | agc | cgt | gtt | atg | aca | gct | act | ata | gat | gaa | gag | ccg | aat | gag | ggt | 720 |
| Arg 225 | Ser | Arg | Val | Met | Thr 230 | Ala | Thr | Ile | Asp | Glu 235 | Glu | Pro | Asn | Glu | Gly 240 | - |
| ggt | aca | cct | сса | aaa | aga | tgc | cgt | gat | gat | ggt | tct | aca | cct | cat | caa | 768 |
| Gly | Thr | Pro | Pro | Lys 245 | Arg | Cys | Arg | Asp | Asp 250 | Gly | Ser | Thr | Pro | His 255 | Gln | |
| gaa | atg | aca | act | acc | acc | act | acc | acc | acc | acc | act | act | att | cat | aac | 816 |
| Glu | Met | Thr | Thr 260 | Thr | Thr | Thr | Thr | Thr 265 | Thr | Thr | Thr | Thr | Ile 270 | His | Asn | |
| tct | cga | gct | cag | aac | cag | gac | ccg | сса | ċgt | gtc | tca | ctt | cac | cgc | cag | 864 |
| Ser | Arg | Ala 275 | Gln | Asn | Gln | Asp | Pro 280 | Pro | Arg | Val | Ser | Leu 285 | His | Arg | Gln | |

| | | | | | | | | | . • | | | | | | _ | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| ctc | acc | cgc | agg | agc | ttg | agc | tgt | gga | agt | att | сса | tca | tgc | gat | caa | 912 |
| Leu | Thr 290 | Arg | Arg | Ser | Leu | Ser 295 | Cys | Gly | Ser | Ile | Pro 300 | Ser | Cys | Asp | Gln | |
| aca | cca | gga | caa | acc | aca | aat | aac | atc | ggc | ctc | ggc | atg | tcg | tcc | gcc | 960 |
| Thr 305 | Pro | Gly | Gln | Thr | Thr 310 | Asn | Asn | Ile | Gly | Leu 315 | Gly | Met | Ser | Ser | Ala 320 | |
| att | ctc | acc | aaa | agc | aca | ctt | gat | atc | cga | acc | ctg | aaa | cgt | ggc | acg | 1008 |
| Ile | Leu | Thr | Lys | Ser 325 | Thr | Leu | Asp | Ile | Arg 330 | Thr | Leu | Lys | Arg | Gly 335 | Thr | |
| ccg | gcg | tgg | act | aat | gga | aca | act | cgt | gac | atc | gca | atg | aga | сса | cac | 1056 |
| Pro | Ala | Trp | Thr 340 | Asn | Gly | Thr | Thr | Arg 345 | Asp | Ile | Ala | Met | Arg 350 | Pro | His | |
| acg | ttt | ata | gag | gca | gga | atc | aaa | gcg | atg | cga | aaa | tgc | gac | aaa | tgt | 1104 |
| Thr | Phe | Ile 355 | Glu | Ala | Gly | Ile | Lys 360 | Ala | Met | Arg | Lys | Cys 365 | Asp | Lys | Cys | |
| gct | aca | gcc | ctg | aag | ctc | gcc | aca | tca | atg | aaa | tgc | aga | gac | tgt | cac | 1152 |
| Ala | Thr 370 | Ala | Leu | Lys | Leu | Ala 375 | Thr | Ser | Met | Lys | Cys 380 | Arg | Asp | Cys | His | |
| cag | gtt | gtc | cat | cgt | agt | tgc | tgc | aac | aaa | ctt | cat | ctc | ccg | tgc | ata | 1200 |
| Gln 385 | Val | Val | His | Arg | Ser 390 | Cys | Cys | Asn | Lys | Leu 395 | His | Leu | Pro | Cys | Ile 400 | |
| cca | cgc | ccc | aag | acg | atg | atg | acg | ccg | aaa | tcc | gca | tta | cgt | gga | gcc | 1248 |
| Pro | Arg | Pro | _ | Thr 405 | Met | Met | Thr | | Lys 410 | | Ala | Leu | Arg | Gly 415 | Ala | |
| aag | ccg | ggc | gca | gga | gag | ttc | cga | ctt | caa | gat | ttg | tgc | aca | tct | gcg | 1296 |
| Lys | Pro | Gly | Ala 420 | Gly | Glu | Phe | Arg | Leu 425 | Gln | Asp | Leu | Cys | Thr 430 | Ser | Ala | |
| aag | сса | atg | atc | ccg | gca | gca | gtt | att | cat | tgt | gtg | gtt | gcc | ctg | gag | 1344 |
| Lys | Pro | Met 435 | Ile | Pro | Ala | Ala | Val 440 | Ile | His | Cys | Val | Val 445 | Ala | Leu | Glu | |
| gct | cgt | gga | ctc | acg | cag | gaa | ggt | att | tac | cgc | gtt | cct | 999 | cag | gtt | 1392 |
| Ala | Arg 450 | Gly | Leu | Thr | Gln | Glu 455 | Gly | Ile | Tyr | Arg | Val 460 | Pro | Gly | Gln | Val | |

| aga | act | gtc | aat | gtg | ctt | ttg | gac | gag | ttg | aga | tca | aaa | acg | gta | ccc | 1440 |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| Arg 465 | Thr | Val | Asn | Val | Leu 470 | Leu | Asp | Glu | Leu | Arg 475 | Ser | Lys | Thr | Val | Pro 480 | |
| aac | gtg | ggc | ctt | cac | gac | gtt | gag | gtc | atc | aca | gac | acc | ttg | aaa | cgg | 1488 |
| Asn | Val | Gly | Leu | His 485 | Asp | Val | Glu | Val | Ile 490 | Thr | Asp | Thr | Leu | Lys 495 | Arg | |
| ttc | cta | aga | gat | ctt | aaa | gac | ccg | ttg | atc | cca | aga | acg | tct | cgt | caa | 1536 |
| Phe | Leu | Arg | Asp 500 | Leu | Lys | Asp | Pro | Leu 505 | Ile | Pro | Arg | Thr | Ser 510 | Arg | Gln | |
| gag | ctc | atc | gtt | gct | gca | aac | ctc | tac | tct | acg | gat | cca | gat | aat | gga | 1584 |
| Glu | Leu | Ile 515 | Val | Ala | Ala | Asn | Leu 520 | Tyr | Ser | Thr | Asp | Pro 525 | Asp | Asn | Gly | |
| cgt | ctc | gcc | ctg | aat | cga | gtg | atc | tgt | gag | ctc | CCC | caa | gcg | aat | cga , | 1632 |
| Arg | Leu 530 | Ala | Leu | Asn | Arg | Val 535 | Ile | Cys | Glu | Leu | Pro 540 | Gln | Ala | Asn | Arg | |
| gac | acc | ctc | gcc | tac | ctt | ttc | att | cac | tgg | cgc | aaa | gtt | atc | gca | caa | 1680 |
| Asp 545 | Thr | Leu | Ala | Tyr | Leu 550 | Phe | Ile | His | Trp | Arg 555 | Lys | Val | Ile | Ala | Gln 560 | |
| tcg | agt | cgc | aac | aag | atg | aac | tgc | gaa | gcg | atg | gcg | cgg | atg | gtg | gct | 1728 |
| Ser | Ser | Arg | Asn | Lys 565 | Met | Asn | Cys | Glu | Ala 570 | Met | Ala | Arg | Met | Val 575 | Ala | |
| ccg | gcg | gtg | atg | ggt | cat | cca | gtg | aag | caa | tcg | cag | tcc | caa | gcg | ata | 1776 |
| Pro | Ala | Val | Met 580 | Gly | His | Pro | Val | Lys 585 | Gln | Ser | Gln | Ser | Gln 590 | Ala | Ile | |
| gct | ggc | aga | gat | gcc | acg | gat | tgc | cat | cga | gcg | atg | act | gct | cta | ttt | 1824 |
| Ala | Gly | Arg 595 | Asp | Ala | Thr | Asp | Cys 600 | His | Arg | Ala | Met | Thr 605 | Ala | Leu | Phe | |
| gaa | ttt | gat | gat | gta | tat | tgg | caa | cga | ttc | cta | 999 | aca | tct | gca | gtt | 1872 |
| Glu | Phe 610 | Asp | Asp | Val | Tyr | Trp 615 | Gln | Arg | Phe | Leu | Gly 620 | Thr | Ser | Ala | Val | |
| tcc | atg | gct | tct | aat | caa | att | gaa | acg | gct | cga | cat | cag | gac | aat | ttt | 1920 |
| Ser 625 | Met | Ala | Ser | Asn | Gln 630 | Ile | Glu | Thr | Ala | Arg 635 | His | Gln | Asp | Asn | Phe 640 | |

gct ctc tgt gat cgt agc atc ctt gga cca gtt aca aca tca cca gcc 1968

Ala Leu Cys Asp Arg Ser Ile Leu Gly Pro Val Thr Thr Ser Pro Ala
act ccc ctg ctt gct cgg tcg gcc aac gcg act cga gca cgt ggt gct 2016

Thr Pro Leu Leu Ala Arg Ser Ala Asn Ala Thr Arg Ala Arg Gly Ala
cat ctg ctg ggg tcg atg ttc cac gat tag 2046

His Leu Leu Gly Ser Met Phe His Asp
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Lys Leu Trp Lys Asp Ser Glu Glu Ser Lys Lys Arg Leu Asn Ala Asp
50 60

Met Arg Glu Ala Glu Glu Ala Leu Ala Lys Ala Arg Lys Lys Leu Ala 65 70 75 80

Met Phe Asp Ile Asp Val Lys Asp Thr Gln Lys His Leu Arg Ala Leu 85 90 95

Met Glu Glu Asn Lys Ala Leu Lys Leu Asp Leu Asn Val Tyr Glu Thr 100 $105 \cdot 110$

Arg Glu Lys Gln Leu Lys Asp Ala Met Lys Asn Gly Ile Phe Asn Ser 115 120 125

Leu Thr Lys Glu Asp Arg Asp Gln Phe Lys Phe Leu His Glu Pro Leu 130 135 140

Val Arg Thr Tyr Ser Lys Arg Val Gln Gln Arg His Pro His Leu Met 145 150 155 160

Glu Asp Thr Gln Asp Asp Glu Asp Asp Ser Glu Val Asp Tyr Asp Glu 165 170 175

Thr Gly Asp Ser Phe Glu Glu Val Ile His Leu Arg Asn Gly Arg Glu Val Arg Arg Ser Ser Ala Ala Gly Asn Ala Val Gly Gly Lys Arg Arg 195 200 205 Ser Ala Ser Ala His Ala Ile Thr Ala Ala Ala Asn Ser Lys Arg Ser 215 Arg Ser Arg Val Met Thr Ala Thr Ile Asp Glu Glu Pro Asn Glu Gly 230 235 Gly Thr Pro Pro Lys Arg Cys Arg Asp Asp Gly Ser Thr Pro His Gln 265 Ser Arg Ala Gln Asn Gln Asp Pro Pro Arg Val Ser Leu His Arg Gln 280 Leu Thr Arg Arg Ser Leu Ser Cys Gly Ser Ile Pro Ser Cys Asp Gln Thr Pro Gly Gln Thr Thr Asn Asn Ile Gly Leu Gly Met Ser Ser Ala 315 310 Ile Leu Thr Lys Ser Thr Leu Asp Ile Arg Thr Leu Lys Arg Gly Thr 330 325 Pro Ala Trp Thr Asn Gly Thr Thr Arg Asp Ile Ala Met Arg Pro His 345 Thr Phe Ile Glu Ala Gly Ile Lys Ala Met Arg Lys Cys Asp Lys Cys Ala Thr Ala Leu Lys Leu Ala Thr Ser Met Lys Cys Arg Asp Cys His Gln Val Val His Arg Ser Cys Cys Asn Lys Leu His Leu Pro Cys Ile 390 395 Pro Arg Pro Lys Thr Met Met Thr Pro Lys Ser Ala Leu Arg Gly Ala 405 Lys Pro Gly Ala Gly Glu Phe Arg Leu Gln Asp Leu Cys Thr Ser Ala 425 Lys Pro Met Ile Pro Ala Ala Val Ile His Cys Val Val Ala Leu Glu Ala Arg Gly Leu Thr Gln Glu Gly Ile Tyr Arg Val Pro Gly Gln Val Arg Thr Val Asn Val Leu Leu Asp Glu Leu Arg Ser Lys Thr Val Pro

| 465 | • | • | | | 470 | | | | | 475 | | | | | 480 |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Asn | Val | Gly | Leu | His 485 | Asp | Val | Glu | Val | Ile 490 | Thr | Asp | Thr | Leu | Lys 495 | Arg |
| Phe | Leu | Arg | Asp 500 | Leu | Lys | Asp | Pro | Leu 505 | Île | Pro | Arg | Thr | Ser 510 | Arg | Gln |
| Glu | Leu | Ile 515 | Val | Ala | Ala | Asn | Leu 520 | Tyr | Ser | Thr | Asp | Pro 525 | Asp | Asn | Gly |
| Arg | Leu 530 | Ala | Leu | Asn | Arg | Val 535 | Ile | Cys | Glu | Leu | Pro 540 | Gln | Ala | Asn | Arg |
| Asp 545 | Thr | Leu | Ala | Tyr | Leu 550 | Phe | Ile | His | Trp | Arg 555 | Lys | Val | Ile | Ala | Gln 560 |
| Ser | Ser | Arg | Asn | Lys 565 | Met | Asn | Cys | Glu | Ala 570 | Met | Ala | Arg | Met | Val 575 | Ala |
| Pro | Ala | Val | Met 580 | Gly | His | Pro | Val | Lys 585 | Ġln | Ser | Gln | Ser | Gln 590 | Ala | Ile |
| Ala | Gly | Arg 595 | Asp | Ala | Thr | Asp | Cys 600 | His | Arg | Ala | Met | Thr 605 | Ala | Leu | Phe |
| Glu | Phe 610 | Asp | Asp | Val | Tyr | Trp 615 | Gln | Arg | Phe | Leu | Gly 620 | Thr | Ser | Ala | Val |
| Ser 625 | Met | Ala | Ser | Asn | Gln 630 | Ile | Glu | Thr | Ala | Arg 635 | His | Gln | Asp | Asn | Phe 640 |
| Ala | Leu | Cys | Asp | Arg 645 | Ser | Ile | Leu | Gly | Pro 650 | Val | Thr | Thr | Ser | Pro 655 | Ala |
| Thr | Pro | Leu | Leu 660 | Ala | Arg | Ser | Ala | Asn 665 | Ala | Thr | Arg | Ala | Arg 670 | Gly | Ala |
| His | Leu | Leu 675 | Gly | Ser | Met | Phe | His 680 | Asp | | | | | | | |